

CLAIMS

- 1/ Apparatus for forming bags by means of a continuously travelling film fitted with at least one tape (60) with an opening/closing function that is placed on the film (12), the apparatus being characterized by the fact that it includes at least one sensor (100) suitable for detecting the presence of the tape (60) having an opening/closing function when it is in a predetermined position relative to means (30) for treating the film cyclically in order to form bags, and in particular relative to the means (30) provided on the apparatus for closing the bag-constituting film transversely.
- 2/ Apparatus according to claim 1, characterized by the fact that the sensor is formed by a mechanical feeler.
- 3/ Apparatus according to claim 1 or 2, characterized by the fact that the sensor (100) is placed after a set of transverse heat-sealed jaws (30) relative to the travel direction of the film (12).
- 4/ Apparatus according to any one of claims 1 to 3, characterized by the fact that the sensor (100) is secured to equipment carrying the transverse heat-sealing jaws (30) so that the sensor (100) is moved cyclically towards and away from the film (12).
- 5/ Apparatus according to any one of claims 1 to 4, characterized by the fact that the sensor (100) is formed by a mechanical feeler having a pusher (102) associated with an electrical contactor (104).
- 6/ Apparatus according to any one of claims 1 to 5, characterized by the fact that it includes means (16) for shaping the film into a tubular state, means (18) suitable for filling the tubular bag blank formed in this

way, and means (30) suitable for closing the bag on the packaged product.

5 7/ Apparatus according to any one of claims 1 to 6, characterized by the fact that it includes means (14) suitable for fixing the tape (60) onto the film (12).

10 8/ Apparatus according to any one of claims 1 to 6, characterized by the fact that it uses a film (12) that is already fitted with the tape (60) having the opening/closing function.

15 9/ Apparatus according to any one of claims 1 to 8, characterized by the fact that it includes means for causing the film (12) to travel vertically.

20 10/ Apparatus according to any one of claims 1 to 8, characterized by the fact that it includes means for causing the film (12) to travel horizontally.

25 11/ Apparatus according to any one of claims 1 to 10, characterized by the fact that the tape (60) having an opening/closing function is selected from the group comprising: complementary closure strips, e.g. male/female strips or strips having complementary hooks; tear/cut tapes; adhesive tapes, which can optionally be peel-off tapes; and metal tapes for closing by folding.

30 12/ Apparatus according to any one of claims 1 to 11, characterized by the fact that the sensor (100) is located along a longitudinal edge of the bag remote from the edge via which the tape (60) is delivered.

35 13/ Apparatus according to any one of claims 1 to 12, characterized by the fact that the sensor (100) is adapted to detect the presence of a tape (60), to detect that the tape (60) has been fed properly in the direction

that is transverse to the travel direction of the film (12), and to detect that the tape is properly positioned in the longitudinal direction of the film (12).

5 14/ Apparatus according to any one of claims 1 to 13, characterized by the fact that each sensor comprises dual feelers (100a, 100b) that are juxtaposed in the longitudinal travel direction of the film (12).

10 15/ Apparatus according to any one of claims 1 to 14, characterized by the fact that the tape (60) extends transversely to the travel direction of the film (12).

15 16/ Apparatus according to any one of claims 1 to 14, characterized by the fact that the tape (60) is disposed parallel to the travel direction of the film (12).

20 17/ Apparatus according to any one of claims 1 to 14, characterized by the fact that the tape (60) is disposed obliquely relative to the travel direction of the film (12).

25 18/ Apparatus according to claim 17, characterized by the fact that it has two sensors (100) disposed close to respective edges of the bag along a generator line that is oblique relative to the travel direction of the film and that corresponds to the expected oblique position for the tape.

30 19/ A method of forming packaging bags using a continuously travelling film fitted with at least one tape (60) having an opening/closing function placed on the film, the method being characterized by the fact that it comprises a step consisting in detecting the presence
35 of the tape (60) having the opening/closing function by means of at least one sensor (100) in a predetermined position relative to the means (30) for cyclically

processing the film in order to form a bag, in particular relative to means (30) provided on the forming apparatus to close the bag-forming film transversely.

- 5 20/ A method according to claim 19, characterized by the fact that the sensor (100) is formed by a mechanical feeler placed on the longitudinal edge of the film remote from the edge via which the tape (60) is delivered.

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B6*

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B1* → *on separate sheet*